

## REMARKS

In response to the official action:

- [1] It is noted that the IDS has not been given weight.
- [2] The Examiner objected to claims 9, 11, and 13. These claims are amended to remove "otherwise," and withdrawal of the objection is requested.

[3-4] Claim 9 is rejected under 35 U.S.C. §102 as being anticipated by Mrklas (U.S. Patent 5,304,112). This rejection is respectfully traversed.

**Claim 9** is directed to detection of one *single* measured physiological quantity (claim 9, line 5), such as GSR heart pulse rate, and skin temperature, over a wide range. Various detectors of a single quantity can have different characteristics, and claim 9 recites signal converters with respective signal conversion characteristics which are

*... different in the relationship of the output signal to the input signal, the different signal conversion characteristics overlapping each other in an input range of the input signal...*

Thus, a continuous output even over a wide range of input is made possible; and

*the detection and signal processing circuit being operable to produce data to control the massage operation based on the output signal, regardless of how many of the signal converters are used to convert the input signal into the output signal*

whereby the outputs of the various signal converters are juxtaposed for the single quantity.

**Mrklas** discloses using a variety of physiological sensors (column 14, line 30) but does not disclose measuring a *single* quantity in *different overlapping ranges*. Mrklas discloses different quantities related to different physiological effects, but does not disclose different ranges of one quantity.

The Examiner asserts that Mrklas discloses overlapping signal conversion characteristics at col. 14, lines 37-42; the cited passage reads, “Suitable amplifying and signal generating circuitry is provided for each sensor to produce an electrical DC voltage signal at interface card 24, so that SRS computer 23 can read the ports ... to obtain stress state data.”

The Applicants respectfully point out that the applied passage of Mrklas does not disclose anything about the magnitudes of the DC voltages, or even their relative magnitudes; all it reveals is that the sensor outputs are converted to a format (i.e., a DC voltage) that is readable by the computer, and that the sensor signals might be amplified.<sup>1</sup>

Without any discussion of magnitudes, there can be no implication or disclosure of any ranges, because a range only has meaning when defined by numerical values (i.e. magnitudes); the words “range” and “overlap” are not found in the applied passage. Therefore, Mrklas does not imply or disclose ranges.

The Applicants do not see, either in the applied passage or elsewhere in the reference, any mention of “the relationship of the output signal to the input signal;” neither do they see “a continuous output ... over a wide range of input is made possible,” nor any mention of controlling the operation “based on the output signal, regardless of how many of the signal converters are used to convert the input signal into the output signal.” None of these phrases from the Applicants' claim are suggested.

Withdrawal of the rejection is requested.

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<sup>1</sup>Amplification does not imply that the sensor *data* carried by the signal is changed. For example, a magnitude encoded digitally or by an analog frequency is not affected when the signal is amplified. Therefore, amplification will affect the data for certain only *after* it is converted to a DC voltage; but that is not disclosed..

[5] Claims 1-5 were rejected under 35 U.S.C. §103 as being unpatentable over Ulrich (U.S. Patent 6,024,575) in view of Fujii (U.S. Patent 6,117,094). This rejection is respectfully traversed.

One of the Applicants' objects is accurate detection of psychological states (relaxed or tense) from measured physiological quantities such as GSR, heart pulse rate, and skin temperature, and one aspect of the subject matter is the physiological states according to rates of *increase or decrease* in the measured physiological quantities, rather than the *instantaneous value* of the measured physiological quantities (as in the prior art). For example, at page 5, line 20, the specification states that “a *drop* in the pulse rate [indicates] a relaxed state [and] a *rise* in the pulse rate [indicates] a tense state” (italics added).

This aspect is illustrated in Fig. 5, where the quantities GSR, SKIN TEMP. and PULSE RATE are associated with arrows which point down (↓), up (↑), or to the right (→). From the text between page 16, line 18 and page 17, line 3, these arrows indicate decrease (↓), increase (↑), and no change (→). The disclosure of Fig. 5 (and also Fig. 6) supports the addition of “time rate of change of the physiological quantity” in amended claim 1.

This feature is not found in Mrklas, which discloses only the bare sensing of data and does not mention rates at all. The rejection has not asserted that the feature added to claim 1 is disclosed by Mrklas.

[6-9] Claims 1-4 and 6-8 were rejected under 35 U.S.C. §103 as being unpatentable over Mrklas in view of Fujii. This rejection is respectfully traversed.

Like Mrklas, Fujii does not disclose the feature of judging the psychological state based on a time rate of change of the physiological quantity, and therefore no combination could reach the present invention, even if the combination were obvious (not admitted).

Claim 7 recites counting a frequency of tense states, and claim 8 recites displaying variations in the count. No disclosure of these features is seen in either reference. The Examiner asserts that because Mrklas discloses sending data to a computer which is “obviously capable of [the claimed features],” the claimed features are obvious. With respect, the rejection is legally incorrect. The question is not what the prior art is *capable* of, the question is what the prior art *suggests*. Any invention must be based on what the prior art is capable of—otherwise it could not work. However, not every invention is obvious for that reason.

**[10]** Claims 10-11 were rejected under 35 U.S.C. §103 as being unpatentable over Mrklas in view of Ulrich. This rejection is respectfully traversed. There is no disclosure of the claimed feature of “two kinds of the signal conversion characteristics respectively for low temperatures and high temperatures which partly overlap each other in the temperature range to be measured.” The Examiner only asserts that there is some inherent disclosure of a high and a low (which is respectfully traversed), and does not address the claimed features of the ranges, or the overlap.

**[11]** Claims 12-13 are rejected under 35 U.S.C. §103 as being unpatentable over Mrklas in view of Besson (U.S. Patent 5,957,854). This rejection is respectfully traversed on the same basis as the rejection of claims 10-11 above.

**[12]** Claims 1-6 were rejected for obviousness-type double patenting over claims 10-16 of Application 09/995,801. This rejection is respectfully traversed.

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Response to O.A. dated 7/02/03

Claim 1 of this application recites a means for holding histories of psychological states of the persons to be massaged, which is a feature not found in base claim 10 of application 09/995,801 (as the Examiner admits). Because claim 1 includes a feature that is neither anticipated by nor obvious over claim 10, it is not obvious over claim 10 of the 09/995,801 application.

The Applicants ask that the Examiner indicate whether or not the rejection would be maintained if claim 11 of Application 09/995,801 were canceled.

Respectfully submitted,

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